

agricultural situation

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**HAVE
STATISTICS,
WILL
TRAVEL**

HAVE STATISTICS, WILL TRAVEL

Reliable agricultural statistics are as much a part of a green revolution in the less developed world as improved seed varieties and more fertilizer. For without good numbers, planners find it difficult to make good decisions.

The Statistical Reporting Service for a number of years has been sending technical experts abroad to help other countries with their data collection and estimating systems. Currently SRS has 23 people, some on temporary duty, others on resident appointments, serving in 11 countries. Most of these projects are being supported by the Agency for International Development; however, one is being done under contract for the United Nations' Food and Agriculture Organization.

We recently talked with some of the men who have been helping in the Philippines, Panama, and Paraguay. Their experiences underline the all-important role of agricultural statistics in modern farming.

PHILIPPINES

"Improving statistical procedures in another country isn't simply a matter of transplanting what works here in the United States," comments Bruce Graham, SRS' Deputy Administrator.

Graham and Emerson Brooks, who recently retired as head of SRS' Foreign Programs staff, have been working since 1969 on a pilot project to help the Philippine government improve agricultural estimates, especially for rice. Rice is far and away the country's leading crop and also the staple food in most of the country.

"Differences in the setup of Philippine agriculture precluded the use of some successful U.S. statistical techniques," Graham explains. He cites the use of area frames to select survey samples as a case in point.

"In the United States, where farm operators generally live on the land they farm, we get very good results with an area frame system for picking the farms and farm households to be sampled," Graham notes. In this system airphotos and county maps are used together to

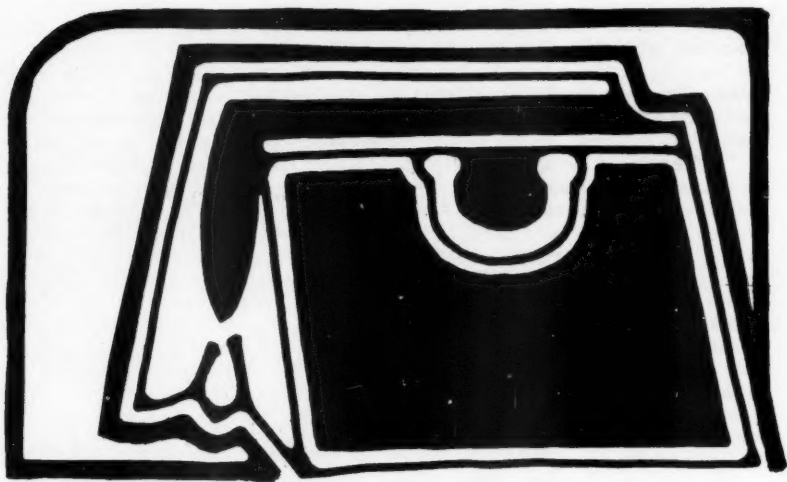
locate farm tracts and their operators.

"However, in the Philippines most farmers don't live on the land they farm but in villages nearby. Because there's no physical relationship between the land and the operators, airphotos would be an inefficient means of selecting our survey samples," says Graham.

"We decided the existing sampling scheme in the pilot province—a door-to-door canvass of all families to identify the farmers—was probably as good as any that could be devised. Our main contribution was to improve and tighten up on the survey procedures."

As in the United States, the Philippine government relies on part-time people to do the actual data collection for its surveys.

"Using much the same techniques as in the United States, we helped the Philippine officials devise qualification standards for part-time enumerators and advertise for people. Then we added some formal training procedures, bringing in the enumerators for classroom training, practice paperwork, and supervised field counts."



Once the procedural chores were out of the way, the real business of collecting data on rice production—and also on rice use—got under way.

"The Philippine government had some data on rice production—collected in the course of its 'quarterly integrated agricultural surveys.' These surveys are rather large-scale affairs that ask about everything—acres, yield, production, prices—for all crops. But since the aim is more for quantity of data rather than quality, the Philippine statisticians were not sure how reliable their estimates were. There were no data whatsoever on rice use," comments Graham.

The pilot province in central Luzon contained some 600 "barrios"—these are the smallest government units in the Philippines and are roughly comparable to our townships—and one-fourth of the barrios were selected for a screening survey to locate farm households.

The part-time enumerators prepared sketches showing the location of each house, then interviewed a family member in each household in the 150 selected barrios and listed the names and occu-

pations of the family heads.

Eventually one-tenth of the farm households were selected for a monthly survey on rice production and use. One-twentieth of the non-farm families were also queried about rice consumption in the household.

Once into the survey Graham came to the conclusion that "crop estimating in the Philippines is much more difficult than in the United States—and the country has fewer resources to spend on it."

Problem No. 1 was the year-round production pattern permitted by the country's semitropical climate.

"There's never any precise starting or stopping point for estimates," Graham recounts. "While the peak harvest season for rice is November through January, and there's a secondary harvest in May and June, some rice is being planted and some rice is being harvested in every month of the year. In areas with ample irrigation water there may be five crops of rice harvested from the same field in 2 years."

Complication No. 2 was the imprecision of measures.

"Usually in the Philippines the

typical small farmer, although familiar with the exact boundaries of his rice paddy, has only a rough idea of its area. He tends to report it in terms of even hectares (a hectare equals 2.47 acres)."

"For example, he may say that he is going to plant about 3 hectares of rice. An error of one-half hectare, which would not be unusual, is a pretty big area of uncertainty about a relatively small parcel of land. Such an error, amounting to more than 16 percent, just isn't good enough for statistics. So we decided not to ask acreage and yield questions but ask directly about total production. After all, that's what everyone is chiefly interested in anyway."

The measurement problem complicated data collection for the rice consumption portion of the survey, too.

The homemakers use a "chupa" rather than a standard measuring cup in preparing rice. A chupa may be a can used for condensed milk, salmon, or pineapple—or it may even be a half-coconut shell.

So the enumerators not only had to ask about the number of persons eating rice at each meal, but also requested the woman of the family to show her chupa in order to convert it into a standard unit of volume.

Despite the difficulties, the rice survey worked out well in the pilot province.

The survey provided the first reliable statistics for government planners on daily per capita consumption of rice in the pilot province. It disproved a common notion that rice consumption went up or down a lot depending on the season of the year and the activities of family members. The consumption survey showed that daily use actually stayed within a relatively narrow range in all seasons. On the basis of these findings, the rice use portion of the survey was

discontinued after 1 year of monthly interviews.

The plans to expand the monthly rice production survey to other provinces have suffered several setbacks since 1970, as changing priorities and governmental problems have stalled progress.

Emerson Brooks reviewed the project with Filipino statisticians and AID officials in Quezon City last fall and there are signs the program may get active again in 1973. Meanwhile several of the Filipino technicians involved in this project are receiving advanced training in survey statistics in the United States.

PANAMA

"Coffee is not Panama's top agricultural item—but the government there was really keen on getting some sort of forecast of the crop early in the growing season," John W. Kirkbride, a member of the Panama team, tells us. Kirkbride is Director of SRS' Estimates Division.

"We in SRS don't make coffee estimates very often, quite obviously, but it turned out that many of our standard survey techniques fitted this crop. We interviewed a special sample of coffee producers—and from that Panamanian officials were able to forecast production as soon as the crop began to set," Kirkbride says.

Now the first estimate of coffee output is published in December, well ahead of the January-February harvest. And there's also a final estimate of coffee production published in April of every year.

C. John Flinginger, SRS' International Programs Officer and team leader for the Panama project, outlines some of the other accomplishments in that country.

Although Panama had yearly wrap-ups of agricultural production, Flinginger indicates these were often too late to do producers any good or to help with government policies,



"One, two, three... stalks in the plot with one, two, three leaves..." These Panamanians are learning how to be enumerators from Clarence Dunkerley, (right), one of the SRS men assisting Panama with crop estimates. In this case they are learning how to count the number of onions in a sample field and are finding it can be tiring work. To supply data for estimates of onions and other vegetables, enumerators travelled into some very remote areas.

such as regulating cattle exports.

What Panama needed, and is starting to get, are forecasts of production well ahead of harvest.

Included in the forecasting program set up by SRS are most of Panama's major crops: rice, corn, beans, coffee, tobacco, and sugarcane. "And the Panamanians want to add grain storage reports to the program," Flieger remarks.

Reports include inventory estimates of cattle, hogs, and chickens. The livestock program is geared to estimate the number of cattle available for slaughter the next 6 months.

"Under the new program Panama issued its first vegetable report in July 1971. This was a bit difficult; some of the enumerators had to get into the producing areas by horseback or on foot.

"Something that might seem quite routine to us in the United States—a published schedule of release dates—caused great interest in Panama. Government planners, producers, and marketers are beginning to make plans around the availability of data—the first time they've felt confident enough to do so," Kirkbride concludes.

AND PARAGUAY

Montie A. Wallace, a survey statistician who's been working in Paraguay, notes that the job he was called upon to do was quite different from that in Panama.

"Paraguay's estimating program had to be built up from scratch," Wallace explains. "The government was putting out annual estimates of crop and livestock production when I got there but these weren't based on any actual counts or producer surveys. Rather the estimates were made on the basis of extending the trends revealed in a 1956 agricultural census—and needless to say these were out of date."

Wallace started by preparing lists of all agricultural producers in the country, then broke them down by size of operation. Paraguayans first enumerated all of the 2,000 larger farms and 3 percent of the more than 160,000 smaller ones.

"Our first report in 1971 created quite a stir," recalls Wallace. "Our livestock estimate covering 1970 reported less than 4½ million cattle in Paraguay. That was 1 million below the lowest estimate based on

1956 agricultural census trends."

"The newspapers printed all the tables, spurring demand for the report. And there was pressure for us to add more crops to what we had estimated."

Besides cattle, hogs, chickens, sheep, goats, and horses, the first estimate covered 10 important crops: corn, beans, rice, sugarcane, soybeans, wheat, cotton, tobacco, potatoes, and mandioca, a root crop much like a sweet potato.

The second annual survey with

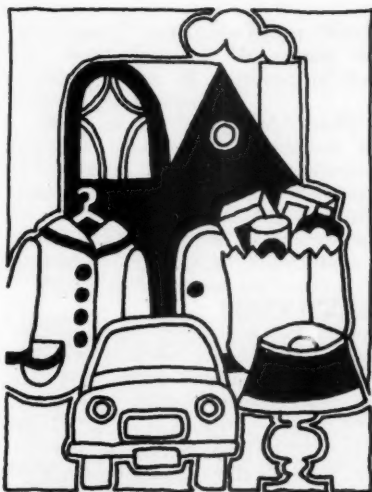
figures for 1971 has been completed and published. Enumeration for the third annual sample survey began in late July 1972.

"Right now I'm back in Washington and Lyle Lautenschlager of SRS is in Paraguay," Wallace states. "He's working on automating their data processing for more timely reports. Also in the future, he plans to get out an estimate of planted acreage in November and an estimate of acreage and forecasts of production in March."

WHO'S TRAVELING WHERE

Here's a list of who's currently assigned to overseas projects:

COUNTRY	SRS PARTICIPANTS
Brazil	Jon Weimer, Special Surveys Branch, Research Division
Colombia	Alan Borough, Standards and Procedures Branch, Washington Computer Center Thomas Cryer, Systems Branch, Survey Division Helene Dyess, Research and Development Branch, Research Division Galen Hart, Methods Branch, Estimates Division John Fliginger, International Programs Officer, Office of the Administrator Wilbert Walther, Livestock, Dairy, and Poultry Branch, Estimates Division
Dominican Republic	Clarence Dunkerley, Research and Development Branch, Research Division John Fliginger, International Programs Officer, Office of the Administrator Harold Huddleston, Research and Development Branch, Research Division
Liberia	John Rowe, Systems Branch, Survey Division
Nigeria	Odell Larson, California State Statistical Office
Panama	Clarence Dunkerley, Research and Development Branch, Research Division John Fliginger, International Programs Officer, Office of the Administrator John Kirkbride, Director, Estimates Division
Paraguay	Lyle Lautenschlager, Research and Development Branch, Research Division Thomas Cryer, Systems Branch, Survey Division Harold Huddleston, Research and Development Branch, Research Division
Philippines	Emerson Brooks, Contract Bruce Graham, Deputy Administrator, Office of the Administrator
Thailand	Donald Bay, Crops Branch, Estimates Division Richard Small, Statistician in Charge, Oregon State Statistical Office
Tunisia	Ray Hile, Contract
Vietnam	Donald Barrowman, Statistician in Charge, Missouri State Statistical Office Bruce Kelly, Director, Research Division



WHAT'S ON THE SHOPPING LIST . . .

Farmers are producers, to be sure, but they are also consumers like everyone else in the Nation.

Latest available data (and it's about 12 years old) show that the average farm family spent about \$3,600 for current consumption, including food, clothing, housing, transportation, medical bills, and other items.

Rising prices for many of these items have affected farmers' purchases of these family needs.

Farmers' spending on family living items is an important part of SRS' Prices Paid Index. The comparison of this index with the Prices Received Index is often used as an indicator of farmers' purchasing power and relative well-being in the Nation's economy.

The Statistical Reporting Service collects data on the current price of various family living items through monthly and quarterly surveys.

But while SRS keeps a close watch over prices, it has no recent information on the kind or quantity of living items purchased by farm families. Benchmark estimates used

in the Prices Paid Index are based on a survey made in 1956. Some new items, such as color television, were not available at that time.

Consequently starting in the spring, SRS will begin fieldwork on a new farm family living expenditure survey. The data obtained will be used to update the relative importance, or weight, given to various family living items in the Prices Paid Index.

During April, and then again in July and in January 1974, some 3,000 families in all parts of the Nation will be contacted by SRS enumerators. The selected families live in 121 randomly selected counties throughout the United States.

Following this survey, data on family living expenditures will be collected at 5-year intervals by SRS. Data on farm production expenses will be collected during four consecutive years; the fifth year SRS will focus on family living items.

. . . AND WHAT ISN'T?

Farmers, like other consumers, buy most of their food at the store. During 1971 the Nation's 9.4 million farm people kept only about \$731 million worth of their products for home use, less than 1½ percent of total farm sales that year.

Just two decades ago farm people used \$2.3 billion worth of home-grown products. Increasing specialization and a declining farm population have cut the total by over two-thirds.

More than 70 percent of the products produced and used on farms in 1971 fell into the livestock and related products category, \$520 million worth. Cattle and calves made up more than half the total, followed by dairy products and hogs.

Farmers also kept almost \$210 million of their crops in 1971, with the favorite being strawberries valued at \$21 million.



SPOTLIGHT ON PENNSYLVANIA

"Picture book farms nestle in fertile mountain valleys and dot the level southeast section of Pennsylvania," says W. "Jerry" Fluke, Statistician in Charge of SRS' Crop and Livestock Reporting Service at Harrisburg.

The Keystone State—third largest in terms of population and famed for steel and coal—is covered by 10.5 million acres of farmland, well over a third of its total area.

Pennsylvania agriculture reached the status of a \$1 billion business in 1969. In 1971 cash receipts totaled almost \$1.1 billion. Livestock and livestock products brought in almost three-quarters of the total.

Milk led the farm product parade in 1971, earning dairymen \$466 million or 44 percent of cash receipts. That was enough milk to capture the Nation's No. 5 dairy spot.

The State's 701,000 cows produced over 7 billion pounds of milk. Much of it ended up as drinking milk in nearby big city markets.

The State's manufacturers of dairy products used 2.3 billion pounds of fluid milk equivalent from all sources in 1971. One-half of that ended up as ice cream—75 million gallons of it—the highest State total in the Nation.

Eggs, the State's second most important agricultural product, brought farmers \$96.7 million in cash receipts. Pennsylvania hens laid 3.6 billion eggs during 1971,

third largest production in the Nation. The State's poultrymen also turned out 60.2 million broilers, worth \$38.3 million, and almost 2.8 million turkeys, worth \$13.3 million. All told, the poultry sector earned 15 percent of the cash receipts.

Another 16 percent came from various livestock enterprises ranging from cattle feeding to mink farming.

"Marketings of all meat animals—including cull dairy bulls, cows, and calves—earned \$165 million in cash receipts," notes Fluke. "Due to our dairy industry we usually earn the No. 3 veal spot in the Nation. In 1971 almost 330,000 calves were slaughtered, providing a total of 27 million pounds of veal."

Also, the State's 68 mink ranchers turned out 123,000 pelts, making Pennsylvania the No. 10 mink State.

"Our livestock and poultry eat up most of our crops," continues Fluke. "In 1971 Pennsylvanians harvested 4.5 million acres of crops—more than any other Atlantic State. Nineteen-tenths of that was feed crops."

Hay accounted for over 2 million acres, while corn for grain accounted for another 1 million and corn for silage 411,000 acres.

"We also harvested over half a million acres of oats and barley and over a quarter of a million acres of wheat, much of it used by our important pretzel industry," says Jerry Fluke.

"Large acreages aren't always

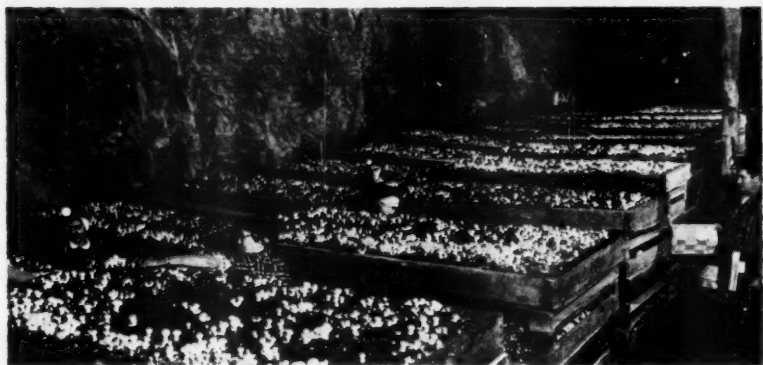
important," continues Fluke. "From an equivalent of 500 acres we produce over 60 percent of the Nation's mushrooms."

Most of the crop, 140.5 million pounds worth \$64.4 million in 1971/72, is produced in mushroom houses in southeastern Pennsylvania, but the world's largest mushroom farm is located in abandoned limestone mines near Pittsburgh.

Fruits and vegetables (including

potatoes) brought in \$81 million. Large quantities are delivered to food processors and potato chippers; however, marketings of fresh fruits and vegetables through nearly 900 roadside and public farm markets is an important outlet for growers.

Rounding out the agricultural picture is Pennsylvania's \$32 million nursery and greenhouse industry which ranks as the seventh largest in the Nation.



Few farmers wear a miners' lantern to work, but these workers (above) in the Nation's largest mushroom farm do. The farm, near Pittsburgh, Pa., lies in abandoned limestone mines. In 1971/72 Pennsylvania produced 61 percent of the Nation's mushroom crop, valued at \$64.4 million. Most of the crop, however, was not produced in western Pennsylvania mine shafts but in mushroom houses that dot the southeastern part of the Keystone State. Three-quarters of the mushroom crop is delivered to canners. (Left) The hex sign is a familiar sight on barns in Pennsylvania. The signs were first used by German settlers in the 18th century.

BUY A LEMON TODAY

A lemon promotion campaign launched in Japan nearly a decade ago is turning out to have a double payoff for U.S. citrus producers. Here's how:

When Japan lifted its import restrictions on lemons back in 1964, the California-Arizona Citrus League, with help from USDA, studied the market and found that eight in 10 Japanese had never tasted a lemon, and a substantial portion of the population had never seen one.

The League consequently began a massive consumer education campaign in Japan's major cities.

By 1968 exports of California-Arizona lemons to Japan had swelled from 250,000 to 2 million cartons a year. Then the League expanded its consumer education efforts to small cities and rural areas. Result: In 1971 our lemon exports to Japan reached a record 3.4 million cartons, valued at about \$11 million. Based on current sales gains the League figures on a 5-million carton business with Japan by 1975.

About a year ago Japan liberalized imports of grapefruit—and the position of this fruit is precisely where lemons were in 1964. So the League plans a consumer education campaign—similar to that for lemons.

Before liberalization the Japanese used 65,000 cartons of California-Arizona grapefruit a year. This year our sales are slated to hit 1½ million cartons of grapefruit.

FABRICS: WHICH RANKS FIRST?

The U.S. homemaker places durability and ease of care above other considerations when shopping for selected household textile goods.

This fact and others relating to the purchase of fiber materials comes

from a USDA survey of about 2,500 homemakers. The study, by SRS' Sample Survey Research Branch, was designed to provide the cotton and wool industries as well as USDA with guidelines for product research and improvements based on consumer needs.

Although cotton sheets were reported used in the majority of the households, homemakers' interest centered on ease of care such as durable press rather than any particular fiber.

In the blanket line the top choice of homemakers was all synthetic while wool rated lowest because it shrank easily and couldn't be used year-round.

Over three-fourths of the homemakers reported they used scatter rugs in their homes, most often in the bathroom. Cotton held the inside track on type of material preferred in the bathroom, although according to the consumer these scatter rugs tended to slide and wear out quickly. Synthetic rugs, either acrylic or nylon, were the most popular types for bedrooms.

Overall, acrylic and nylon were the most popular choices for room size or area rugs. The major considerations in purchasing these rugs were appearance over time, ease of care on a day-to-day basis, and ease of stain removal.

Although wool was rated high for the living room by better than a third of the homemakers, it was judged difficult to keep stain free.

Most respondents seemed to favor fiber glass for living room curtains and draperies. However about equal proportions of homemakers had used nylon, cotton, and fiber glass curtains in the living room.

For tablecloths homemakers put durable press and stain resistance ahead of their preferences for individual fibers. As a rule, though, cotton cloths were most often mentioned as the fiber used with linen a distant runner-up.



AND NOW, SENOR TOMATO

While there are no trademarks to proclaim its identity, the Mexican tomato has become a familiar sight in our winter vegetable market.

Since American consumers have grown accustomed to ample off-season fresh vegetable supplies, the United States has been a growing market for winter vegetable imports. Shipments of fresh winter vegetables from Mexico (a major supplier) mushroomed from 329 million pounds in 1960 to more than a billion pounds a decade later.

Of these imports the tomato is by far the most important, accounting for about 70 percent of the total import value of fresh vegetables. In recent years Mexican producers have steadily increased their share of this market.

For example, in 1963 Mexican tomatoes accounted for about 30 percent of the December-to-May tomato movements. Imports from Mexico have doubled in recent years and should remain high in 1973.

Production costs for Mexican vine-ripened tomatoes are about

one-third those of Florida, the chief Stateside winter grower. Combined production and marketing costs still give some advantage to Mexican shipments in many markets. Add to this the more favorable Mexican winter growing conditions and the long term advantage leans in favor of Mexico increasing its share of the U.S. market, say ERS economists who have studied the situation.

Most Mexican tomatoes are classed as vine ripened, which means that they are picked when the first traces of pink appear. The majority of Florida tomatoes are harvested as mature green, meaning that the fruit has reached a whitish-green state of maturity.

But by the time the tomatoes reach the produce counter, most marketing men in the United States find little to distinguish between the two types.

After tomatoes, peppers and cucumbers rate highest in terms of winter import value. In the case of these, too, Mexican imports are likely to go up, specialists say, due mainly to less chance of winter cold weather damage.

THE HOUSE THAT USDA BUILT



In the short space of 8 hours workmen recently erected this three bedroom rambler, complete with electricity and plumbing, in Virginia.

The key to the speedy construction job was not the factory-built house—which came with interior walls prefinished and kitchen and bathroom fixtures installed—but a revolutionary new method of constructing housing on wood foundations developed by USDA in cooperation with the National Forest Products Association and the American Wood Preservative Institute.

Wood foundations—treated with a preservative that lets them resist termites and rodents—can be installed under nearly all weather conditions, including extremely cold and extremely wet periods when masonry can't be used. This allows housing construction to go on year-round. Also, since wood foundations don't need a drying-out period, they can be installed in far less time and at less cost than mortar and cinder-block bases.

At 8:25 a.m. pressure-treated wood foundation panels (upper left) are set in trenches lined with crushed rock to provide drainage. Corner joints are then nailed tightly, workmen make sure the foundation is plumb and level, and the trenches are backfilled with dirt to secure the foundation.

(Left) Because the wood base needs no drying-out period, construction of the house starts by 11 a.m. The first of two 10-ton modules, each half a house, is carefully hoisted onto the foundation. The second module will be bolted to it within minutes. By 3:27 p.m. workmen will complete all on-site jobs such as finishing the roof and hooking up the electricity to the pre-wired house. All that remains to be done is some finishing touches on the yard. The new home's owners actually will begin moving furniture in by 4:10 p.m. the same day.

ag Outlook

DIGESTED FROM OUTLOOK REPORTS OF THE ECONOMIC RESEARCH SERVICE
FORECASTS BASED ON INFORMATION AVAILABLE THROUGH JANUARY 1, 1973

HOGS AND PIGS . . . Slaughter supplies are going to be down during 1973's first half because there were 2% fewer market hogs on farms December 1, 1972 than a year earlier. However, second half supplies will be up sharply. Hog producers intend to have nearly 7 million sows farrow during December 1972-May 1973. Allowing for trend, this should produce a spring pig crop of 51.2 million head, up 7% from a year earlier. Hogs born during these months will account for the bulk of second half 1973 marketings.

EGGS . . . Output, which has stayed below year-earlier levels since April 1972, will probably continue lower through 1973's first half. Layer numbers during the first half will be off about 5% from the 317 million birds for the first half of 1972.

BROILER MEAT production, which gained 7% during 1972, may keep right on gaining during 1973's first half but at a slower rate. Stronger broiler prices, buoyed by high red meat prices, indicate that chick placements will keep near or above year-earlier levels during the first 6 months. However, higher production costs, especially feed prices, will likely limit the gains.

GOBBLER GAIN . . . Turkey output will make a substantial gain during 1973's first 6 months, since last fall's poult production stood 15% above year-earlier levels. Output during the first half of the year is seasonally light and normally accounts for only about one-fourth of the year's total. In early September turkey breeder flock owners in 26 major States indicated intentions of keeping 2% more breeder hens for the 1973 hatching season.

TOBACCO . . . During the 1972/73 marketing year (July-June), tobacco use will probably stay close to the 1.9 billion pounds of last season and exceed the 1 3/4-billion-pound 1972 crop. The decline in leaf use per cigarette is being offset by an upswing in cigarette output.

OODLES OF ORANGES . . . Orange production in 1972/73 looked as of January 1 to be a record-large 221.9 million boxes, 16% more than last season. A freeze in California in early December cut that State's prospective output to 42.0 million boxes, compared with an estimated 52.0 million on December 1, 1972. However, Florida's big crop of 168.0 million boxes is more than offsetting the loss in California.

PRICE PICTURE . . . Season average prices for all Florida oranges during 1971/72 were \$2.93 a box while the California all-orange average was \$3.20 (equivalent packinghouse door returns). Larger supplies in prospect during 1972/73 will probably squeeze prices some. But the small noncitrus crops of last summer and a slightly smaller 1972 apple harvest just might relieve some of the price pressure by boosting demand for fresh oranges.

DEMAND DETAILS . . . Use of oranges, especially in processed products, could hit a new high, too, this season. Per capita consumption of frozen concentrated juice has climbed from less than 5 pounds (single strength basis) in 1950 to over 20 pounds in each of the past 2 years. Chilled orange juice use has also gone up sharply. These gains, along with population growth, are adding up to a real surge in demand for processed orange products and, in turn, for oranges for processing.

WORLD AGRICULTURAL PRODUCTION dropped slightly in 1972. Adverse weather—particularly drought—was generally responsible for the downturn. Output, notably of grain crops, fell sharply in the USSR, India, and Australia. However, tight grain supplies in most areas of the world have coincided with ample stocks in the United States.

TEN BILLION DOLLARS WORTH, or even more, of U.S. farm products will probably end up in foreign nations by mid-1973. Shipments of grains and soybeans are forecast at record highs. Japan will probably buy \$1.5 billion worth of U.S. farm products and the USSR \$1 billion. Other destinations: Western Europe, \$3.2 billion, and Asia (including the Near East but not Japan or USSR), \$2 billion.

NITROGEN FERTILIZER USE is likely to increase somewhat from 1972's total of over 8.1 million tons. High prices for food and feed grains will encourage farmers to plant and to fertilize liberally with nitrogen.

FERTILIZER PRICES look on the upswing for 1973. Urea, concentrated superphosphate, and ammonium phosphate prices may rise within Phase III limitations. Ammonia prices will remain firm or edge higher, especially if supplies of natural gas are depleted by a severe winter. Potash prices will probably run at last year's levels.

Statistical Barometer

Item	1970	1971	1972—latest available data
Prices:			
All prices received by farmers (1967=100)	110	112	137 December
Crops (1967=100)	100	107	127 December
Livestock (1967=100)	118	116	145 December
All prices paid by farmers (1967=100)	114	120	131 December
Ratio ¹ (1967=100)	96	94	105 December
Consumer price index, all items (1967=100)	116	121	127 November
Food (1967=100)	115	118	125 November
Farm Income:			
Volume of farm marketings (1967=100)	108	111	110 (2)
Cash receipts from farm marketings (\$bil.)	50.5	53.1	58.1 (2)
Crops (\$bil.)	20.9	22.6	23.4 (2)
Livestock (\$bil.)	29.6	30.5	34.7 (2)
Realized gross farm income (\$bil.)	57.9	60.1	66.1 (2)
Production expenses (\$bil.)	41.1	44.0	47.3 (2)
Realized net farm income (\$bil.)	16.8	16.1	18.8 (2)
Income and Spending:			
Disposable personal income, total (\$bil.)	689.5	744.4	798.7 (2)
Expenditures for food (\$bil.)	114.2	117.3	125.2 (2)
Share of income spent for food (percent)	16.6	15.8	15.7 (2)
Farm Food Market Basket:²			
Retail cost (\$)	1,223	1,244	1,319 November
Farm value (\$)	476	477	526 November
Farmers' share of retail cost (percent)	39	38	40 November
Agricultural Trade:			
Agricultural exports (\$bil.)	7.2	7.7	8.3 Jan.-Nov.
Agricultural imports (\$bil.)	5.7	5.8	5.9 Jan.-Nov.
Farm Production and Efficiency:			
Farm output, total (1967=100)	102	111	113 December
Livestock (1967=100)	105	108	109 December
Crops (1967=100)	100	112	114 December
Cropland used for crops (1967=100)	98	101	100 December
Crop production per acre (1967=100)	102	111	114 December
Farm inputs, total (1967=100)	102	102	103 December
Farm output per unit of input (1967=100)	100	109	110 December
Hogs and Pigs on Farms:			
Number of hog farms, 50 States (thous.)	875	880	810 December
Hogs and pigs on farms, December 1 (mil.)	67.4	62.5	61.5 December
Inventory value of all hogs (\$bil.)	1.6	1.8	2.6 December
Average value per head (\$)	23.50	28.50	41.90 December
June-November pig crop (mil. head)	49.6	45.9	45.7 December
December-May pig crop (mil. head)	52.3	52.5	48.1 December
Expected Dec. 1972-May 1973 pig crop (mil. head) ⁴	---	---	51.2 December

¹Ratio of index of prices received by farmers to index of prices paid, interest, taxes, and farm wage rates.

²Average quantities per family and single person households bought by wage and clerical workers, 1960-61, based on Bureau of Labor Statistics figures.

³Annual rate, seasonally adjusted third quarter.

⁴Based on intended sow farrowings using average litter rates adjusted for trend.

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